UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,624	10/03/2003	Seiichi Kawano	JP920020163US1	9411

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EXAMINER
HOANG, DANIEL L

ART UNIT	PAPER NUMBER
2136	

MAIL DATE	DELIVERY MODE
11/15/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/678,624	KAWANO ET AL.
	Examiner	Art Unit	
	Daniel L. Hoang	2136	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>22 August 2007</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4 and 7-16* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4, 7-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

RESPONSE TO ARGUMENTS

Applicant's arguments with respect to claims 1-4 and 7-16 have been considered but are moot in view of

the new ground(s) of rejection.

CLAIMS PRESENTED

Claims 1-4 and 7-16 are presented.

CLAIM REJECTIONS

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1-4 and 7-16 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Shimotono (US PGP No. 20010018717), and further in view of Dunstan (US Patent

No. 7210045) as well as applicant-submitted prior art Oka (Japanese Publication

11288366), hereinafter Shimotono, Dunstan, and Oka.

3.   **As per claims 1 and 14-16:**

Apparatus, comprising:

an external storage device having a normal partition storing an executable program for a main operating

system, which can be referred to by a user, and a hidden partition storing an executable program for an

sub-operating-system, which is hidden from the user;

a suspend unit which stops the operation of the main operating system and saves the state of execution of the main operating system to a save area upon receiving a switch direction that arises in response to a first change in information processing needs;

a reader which reads the executable program for the sub-operating-system from the hidden partition to a main storage unit upon receiving a direction for reading after the suspend unit stops the operation of the main operating system and saves the state of execution of the main operating system to the save area; and

an execution unit which executes the executable program of the sub-operating-system when the executable program of the sub-operating-system is fully read into the main storage unit.

Shimotono teaches the following:

A memory device which has a logically divided memory area to obtain a plurality of operating system memory areas (see paragraph 0018). Shimotono further teaches a suspend unit which stops the operation of the main OS and saves the state of execution of the main OS upon receiving a direction for reading after the suspend unit stops the operation of the main operating system and saves the state of execution of the main operating system to the save area; and an execution unit which executes the executable program of the sub-operating-system when the executable program of the sub-operating-system is fully read into the main storage unit (see paragraphs 0018-0019).

Shimotono does not explicitly teach that the logically divided memory area contains a normal partition and a hidden partition. Shimotono is also mute in mentioning that the stopping of operation of the main operating system occurs in response to a change in information processing needs. For the above mentioned embodiments of the claim, examiner relies on Dunstan and Oka.

Dunstan teaches the following:

A hard disk drive that is divided such that it includes a normal partition and a hidden partition (see col. 2, lines 28-37). As mentioned above, Shimotono only teaches that the memory device is divided into a plurality of partitions. Shimotono does not explicitly state that the partition(s) contain normal or hidden partitions. In would have been obvious to one of ordinary skill in the art to combine the ability to divide a hard disk into normal and hidden partitions, as taught by Dunstan, with the system taught above by Shimotono. One would be motivated to do so in order to keep confidential information from being exposed (see Dunstan, col. 2, lines 52-63).

Oka teaches the following:

A system in which the switching between multiple operating systems occurs based on information processing needs of a user (see paragraphs 006-009). As mentioned above, Shimotono only teaches that the system can support switching between multiple operating systems but is mute in stating that the motivation to switch between these operating systems is due to a change in information processing needs of a user. Oka is relied upon to provide this motivation.

4.   As per claim 2:

Apparatus of Claim 1, wherein said reader transmits a predetermined password to said external storage device to permit said external storage device to read the hidden partition.

Due to the fact that the hidden partition is hidden from the user, examiner deems that it would have been obvious to one of ordinary skill in the art to provide some type of authorization protocol in order to authorize access to the hidden partition. This would further improve upon the already mentioned motivation to keep confidential information from being exposed.

5. **As per claim 3:**

Apparatus of Claim 1, wherein the first change in information processing needs requires the sub-operating system with a shorter activation time than the main operating system.

Shimotono teaches that the activation time of subsequently loaded operating systems are significantly lessened due to the fact that the currently loaded OS does not need to be shut down in order to load subsequent operating systems. This in effect, cuts down on activation times. (see paragraph 0012).

6. **As per claim 4:**

Apparatus of Claim I, wherein the first change in information processing needs allows the sub-operating-system having a power consumption per unit time lower than that of a main operating system to adequately and preferably meet the new information processing needs.

[see Shimotono, paragraphs 0011-0012, 0021, and 0075]

7. **As per claim 7:**

Apparatus of Claim 1, further comprising a resume unit which restores the state of execution of the main operating system from the save area and resumes the execution of the main operating system when the execution of the sub-operating system is completed after a second change in information processing needs.

[see Shimotono, paragraph 0018, "resume controller"]

8. **As per claim 8:**

Apparatus of Claim 1, wherein the suspend unit saves the state of execution of the main operating system to the save area provided in the hidden partition.

[see Shimotono, paragraphs 0019-0020]

9.   **As per claim 9:**

Apparatus of Claim 1, further comprising a device driver executed on the main operating system, said device driver requesting the main operating system to assign part of the main storage device as the save area; wherein said suspend unit saves the state of execution to the save area assigned by said device driver.

[see Shimotono, paragraph 0068]

10.   **As per claim 10:**

Apparatus of Claim [[5]]1, wherein said suspend unit secures the save area in an NVS (Non-Volatile-Sleeping) area by using an ACPI function provided in the apparatus.

[see Shimotono, paragraph 0069]

11.   **As per claim 11:**

Apparatus of Claim 1, wherein said suspend unit uses as the save area a video memory used for on-screen display by the apparatus.

[see Shimotono, paragraph 0106]

12.   **As per claim 12:**

Apparatus of Claim 11, wherein said suspend unit uses as the save area an unused area not used by the sub-operating system in said video memory.

[see Shimotono, paragraphs 0019-0020]

13.   **As per claim 13:**

Apparatus of Claim 1, wherein said suspend unit uses as the save area a storage area powered off to lose stored contents when the main operating system is in the suspended state and when the sub-operating system is not started.

[see Shimotono, paragraphs 0019-0020]

CONCLUSION

14.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

POINTS OF CONTACT

*.   Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to**:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
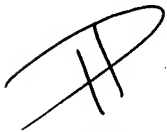Randolph Building
401 Dulaney Street
Alexandria, VA 22314

*.   Any inquiry concerning this communication or earlier communications from the examiner should

be directed to Daniel L. Hoang whose telephone number is 571-270-1019. The examiner can normally

be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

Nasser Moazzami can be reached on 571-272-4195. The fax phone number for the organization where

this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application

Information Retrieval (PAIR) system. Status information for published applications may be obtained from

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at 866-217-9197 (toll-free).

KAMBIZ ZAND
SUPERVISORY PATENT EXAMINER

Daniel L. Hoang
11/10/07